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FACSIMILE TRANSMITTAL COVER SHEET

DATE: April 7, 2004 ATTORNEY DOCKET NUMBER: SGM 6934.1
PTO FACSIMILE NUMBER: (571)273-0751
PLEASE DELIVER THIS FACSIMILE TO: Examiner Sisson
THIS FACSIMILE IS BEING SENT BY: Timothy B. McBride
NUMBER OF PAGES: 8 INCLUDING COVER SHEET
TIME SENT: 11:30 am OPERATOR'S NAME Lori Macke

CERTIFICATION OF FACSIMILE TRANSMISSION

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Lori Macke April 7, 2004
Signature Date

Type of paper transmitted: Letter with Amendment for Discussion
Purposes Only

Applicant's Name: Ward et al.

Serial No. (Control No.): 09/610,935 Examiner: Sisson

Filing Date: July 6, 2000 Art Unit: 1634

Application Title: Tracer Reagents That Enhance Reaction-Product
Analysis

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Timothy B. McBride

April 7, 2004

VIA FAX NO. 571-273-0751Assistant Commissioner for Patents
Washington, D. C. 20231

Attention: Examiner Bradley Sisson

Re: Ward et al., Patent Application No.: 09/610, 935, Filed July 6, 2000
Entitled: TRACER REAGENTS THAT ENHANCE REACTION-PRODUCT
ANALYSIS
FOR DISCUSSION PURPOSES ONLY

Dear Examiner Sisson:

Pursuant to our telephone conversation of Tuesday, April 6, 2004, please find submitted herewith a proposed set of claims for discussion purposes only. As we discussed, this set includes amendments to the currently pending claims, as well as the addition of claims 60-65.

In response to your voice mail message to Ed Hejlek this morning regarding the phrase "free of the primer" as found in claim 60, support for such a requirement can be found in original claim 11, wherein it is stated that the composition is substantially free of substrate, in combination with the description at p. 11, lines 8-16 of the specification, wherein it is stated that the term "substrate" can include the primer.

We have replaced the word "composition" with the word "reagent" throughout all claims in order to be consistent. Support for such an amendment can be found in the specification at p. 10, lines 7-8.

We have also amended claim 48 to correct a prior error. Specifically, the claim was amended to make it clear that it is the reagent that has an optical density of 5 to 500. Support for this amendment can be found in the specification at p. 13, lines 28-31.

Once you have had an opportunity to review these claims, please feel free to contact us to discuss the same. At that time, we will be pleased to provide a formal amendment providing complete citations for support for each of the amendments.

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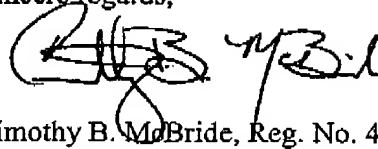
Assistant Commissioner for Patents

April 7, 2004

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In the meantime, should you have any questions or comments, please do not hesitate to contact me.

Sincere regards,

A handwritten signature in black ink, appearing to read 'TBM' followed by a stylized flourish.

Timothy B. McBride, Reg. No. 47,781

TBM/lam

*Enclosure

U.S. Patent App. No. 09/610,135
Title: Tracer Reagents That Enhance
Reaction-product Analysis
Senniger Powers Ref: SGM 6934.1
Second Proposed Claim Set
(For Discussion Purposes Only)
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1. - 12. Canceled.

13. The ~~composition~~ reagent of claim ~~11~~ 60 having a density of about 0.01 g/cm³ greater than the density of an analytical liquid phase to 0.14 g/cm³ greater than the density of an analytical liquid phase.

14. The ~~composition~~ reagent of claim ~~11~~ 60 having a density of about 1.14 g/cm³.

15. The ~~composition~~ reagent of claim ~~11~~ 60 wherein the optical density of the composition is at least about 15 at a visible wavelength of maximal tracer absorbance.

16. The ~~composition~~ reagent of claim ~~11~~ 60 wherein the optical density of the composition is about 200 - 400 at a visible wavelength of maximal tracer absorbance.

17.-19. Canceled.

20. The ~~composition~~ reagent of claim ~~11~~ 60 wherein the polymerase is Taq polymerase.

21. The ~~composition~~ reagent of claim ~~11~~ 60 wherein the tracer dye is comprised of acid violet 5 and acid red 1.

U.S. Patent App. No. 09/610, 035
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22. The ~~composition~~ reagent of claim 14 wherein the optical density of the composition is about 200 - 400 at a visible wavelength of maximal tracer absorbance, the polymerase is a Taq polymerase, and the tracer dye consists of 20% acid violet 5 and 80% acid red 1.

23.- 41. Canceled.

42. An aqueous reagent composition for an ex-vivo polymerase reaction in which a nucleic acid polymer product complementary to a nucleic acid polymer template is prepared, the ~~composition~~ reagent comprising Taq DNA polymerase and an anionic tracer dye unbound to primer or nucleotides which visually has a red appearance and a peak visible absorbance wavelength at between 430 and 617 nm and a solute to increase the physical density of the reagent, the ~~composition~~ reagent being substantially free of the primer and the nucleic acid polymer template and having a physical density of at least about 1.01 g/cm³, but less than the density of the solute.

43. The ~~composition~~ reagent of 42 wherein the ~~composition~~ reagent has a density of about 1.14 g/cm³.

44. The ~~composition~~ reagent of 43 wherein the ~~composition~~ solute comprises glycerol, trimethylglycine or a sugar.

U.S. Patent App. No. 09/610,435
Title: Tracer Reagents That Enhance
Reaction-product Analysis
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Second Proposed Claim Set
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April 7, 2004

45. The composition reagent of 42 wherein the composition solute comprises glycerol, trimethylglycine or a sugar.

46. The composition reagent of 43 wherein the composition solute comprises glycerol.

47. The composition reagent of 42 wherein the composition solute comprises glycerol.

48. An aqueous reagent composition for an ex-vivo polymerase reaction in which a nucleic acid polymer product complementary to a nucleic acid polymer template is prepared, the composition reagent comprising Taq DNA polymerase, and an anionic tracer dye unbound to primer or nucleotides consisting essentially of acid red 1 and acid violet 5, and a solute to increase the physical density of the reagent, the tracer dye reagent having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance, the composition being substantially free of the primer and the nucleic acid polymer template, and having a physical density of at least about 1.01 g/cm³, but less than the density of the solute.

49. The composition reagent of 48 wherein the composition reagent has a density of about 1.14 g/cm³.

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50. The composition reagent of 49 wherein the composition solute comprises glycerol, trimethylglycine or a sugar.

51. The composition reagent of 48 wherein the composition solute comprises glycerol, trimethylglycine or a sugar.

52. The composition reagent of 49 wherein the composition solute comprises glycerol.

53. The composition reagent of 48 wherein the composition solute comprises glycerol.

54. - 59. Cancel.

60. An aqueous reagent for use in forming a polymerase reaction mixture comprising a thermostable DNA polymerase, a nucleic acid polymer template, a primer, nucleotides, a detectible anionic tracer dye unbound to primer or nucleotides, and a solute to increase the physical density of the reagent, the reagent comprising the thermostable DNA polymerase, the detectible anionic tracer dye, and the solute but being substantially free of the primer and the nucleic acid polymer template, the reagent having an optical density of about 5 to about 500 at a visible wavelength of maximal tracer absorbance and a physical density of at least about 1.01 gm/cm³, but less than the density of the solute.

U.S. Patent App. No. 09/610,135
Title: Tracer Reagents That Enhance
Reaction-product Analysis
Senniger Powers Ref: SGM 1934.1
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61. The reagent of claim 60 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.033 to 10 units/ μ l.

62. The reagent of claim 60 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is 0.06 to 5 units/ μ l.

63. The reagent of claim 60 wherein the thermostable DNA polymerase is Taq and the concentration of Taq in the reagent is about 1 unit/ μ l.

64. The reagent of claim 20, wherein the solute is sugar, trimethylglycine, or glycerol.

65. The reagent of claim 20, wherein the solute is glycerol.